

Remarks

Reconsideration and allowance of this application are respectfully requested.

Claims 1-9 are pending in this application, with Claims 1 and 6 being independent. Claims 6-8 are withdrawn from consideration. Claim 1 is amended herein to more clearly recite the features of the claimed invention; support may be found in the specification at least at page 11, lines 7-15 (average particle thickness) and at page 39, Table 1, page 33, lines 16-20 and page 35, lines 2-6 (quenching step). Applicants respectfully submit that no new matter has been added by the amendments herein.

Claims 1-3 and 9 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Yoshino et al. (EP 709,222) and Eguchi et al. (EP 701,904). Claims 1, 4 and 5 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Yoshino et al. and Eguchi et al. in view of Misuda et al. (U.S. Patent No. 5,104,730) or Applicants' alleged admissions on page 4 of the specification. Applicants respectfully disagree with these rejections.

Before addressing the merits of the rejections, Applicants believe it will be helpful to review the features of the claimed invention. As recited in Claim 1, the present invention relates to a recording medium comprising a substrate and an ink-receiving layer provided on the substrate. The ink-receiving layer essentially consists of a binder and an alumina hydrate. The alumina hydrate is obtained through a quenching step. The alumina hydrate has a boehmite structure and a flat plate form, an average particle thickness of 3.0 to 5.0 nm and a crystallite size of 5.0 to 8.0 nm in a direction of a (020) plane. The

crystallite size in the direction of a (020) plane is greater than the average particle thickness by at least 1 nm. The recording medium has a degree of parallelization of 30 to 1,000. In Applicants' view, the cited references do not teach or suggest the claimed invention.

In the first paragraph of item 3 (page 2) of the March 2, 2004 Office Action, the Examiner addresses the issue of parallelization degree. Applicants respond as follows. Eguchi et al. recites a parallelization degree of 1.5 or higher in some of the claims (see also page 4, lines 29-30). Applicants submit, however, that Eguchi et al. do not recognize that a parallelization degree in the range of 30 to 1000, as recited in Claim 1 of the present invention, can eliminate the occurrence of coating defects or curling before and after printing.

Moreover, Eguchi et al. is not seen to teach at least the following features of the present invention:

- Alumina hydrate has an average particle thickness of 3.0 to 5.0 nm.
- Alumina hydrate has a crystallite size of 5.0 to 8.0 nm in a direction of a (020) plane.
- The crystallite size of the alumina hydrate in a direction of a (020) plane is greater than the average particle thickness by at least 1 nm.
- Alumina hydrate obtained through a quenching step is employed.

In the present invention, the above-noted features provide the following benefits:

- When the average particle thickness is 3.0 to 5.0 nm, a porous structure having a wide range of pore radius distribution can be formed easily. Also, the transparency of the resulting ink-receiving layer and the coloring of

images printed thereon can be improved. (See page 11, lines 12-17 of the specification.)

- When the crystallite size is 5.0 to 8.0 nm in the direction of a (020) plane, the transparency of the resulting recording medium can be improved, without impairing the self-film-forming property of the alumina hydrate. (See page 12, lines 6-11 of the specification.)
- When the crystallite size of the alumina hydrate in the direction of a (020) plane is greater than the average particle thickness by at least 1 nm, the resulting recording medium is unlikely to undergo dusting and cracking when it is folded. (See page 12, lines 17-20 of the specification).
- When alumina hydrate is obtained through a quenching step, a recording medium having a parallelization degree ranging from 30 to 1000 is readily obtained.

In the second paragraph of item 3 (pages 2-3) of the March 2, 2004 Office Action, the Examiner addresses the issue of quenching. Applicants have amended Claim 1 to recite that the alumina hydrate is obtained through a quenching step. Applicants note that when the average particle thickness is 5.0 nm or higher, a high degree of orientation can be obtained by the quenching treatment.

Yoshino et al. is cited for its teachings regarding the crystallite size.

Yoshino et al. teaches a recording medium containing alumina hydrate the crystallite size of which is in the range of 6.0 to 10.0 nm in a (020) plane. Applicants submit, however, that this reference does not teach or suggest the features of the crystallite size as claimed in

the present invention that (1) the average particle thickness is 3.0 to 5.0 nm or that (2) the crystallite size in the direction of a (020) plane is greater than the average particle thickness by at least 1 nm. Moreover, none of the cited references is seen as teaching the quenching step in the process of producing the alumina hydrate.

Accordingly, Applicants conclude that Eguchi et al. and Yoshino et al. do not teach or suggest the claimed invention.


Misuda et al. was cited for teaching the use of a layer of silica powder over a layer of pseudo-boehmite in a recording medium. Page 4 of the specification was cited for teaching the use of a silica layer to reduce scratch marking. It is submitted that neither reference remedies the deficiencies of the combination of Eguchi et al. and Yoshino et al. Accordingly, Applicants conclude that none of the cited references, whether taken singly or in combination — assuming such combination is proper — anticipates or renders obvious the present invention as recited in Claim 1.

Applicants submit that the present invention is patentably defined by independent Claim 1. The dependent claims are allowable for the reasons given regarding Claim 1, as well as for the patentable features recited therein. Individual consideration of the dependent claims is respectfully solicited.

The present application is in condition for allowance. Favorable consideration, withdrawal of the Section 103 rejections set forth in the Office Action, rejoinder of the withdrawn claims, and an early Notice of Allowance are respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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